DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Master Schedule and Overview
WBS: All
Date Submitted: 3/30/01
Submitted By: Harry Weerts, Bill Freeman

Done	Reportable Milestone	Date	Baseline	Variance
X	M1-Solenoid Delivered to Fermilab	5/12/97	5/12/97	0 w
X	M2-Central Preshower Module Fabrication Complete	12/16/97	12/16/97	0 w
X	M2-Central Preshower Installed on Solenoid	5/21/98	5/21/98	0 w
X	M1-Solenoid Installed and Tested	9/30/98	9/30/98	0 w
X	M3-Level Ø-South Installed	5/8/00	2/9/00	12.6 w
X	M2-Muon End Toroids Installed on Platform	8/4/00	11/15/00	-14.2 w
X	M1-Begin Shield Wall Removal/Ready to Roll-in	11/7/00	11/22/00	-2.2 w
	M1-Detector Rolled-in and Hooked Up	2/27/01	2/2/01	3.4 w

Note: The full set of reportable milestones are collected and sorted by date at the end of this report. Also, a separate monthly report for the solenoid project will no longer be included, since that project is now formally complete. The reportable milestones associated with the solenoid project are now included in the above list.

Areas of Concern

Technical
See individual subsystem reports

Schedule
See individual subsystem reports

Resources
None

Cost
None

Change Requests

None

Progress Summary

The DØ Detector roll-in to the Collision Hall was completed on Jan 26, 2001.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Silicon Tracker
WBS: 1.1.1
Date Submitted: 3/20/01
Submitted By: Marcel Demarteau, Ron Lipton

Done	Reportable Milestone	Date	Baseline	Variance
X	H Half-Wedge Fabrication 20% Complete	10/15/99	10/15/99	0 w
X	3 Chip Ladder Fabrication 80% Complete	10/26/99	10/20/99	0.6 w
X	9 Chip Ladder Fabrication 20% Complete	11/4/99	11/3/99	0.2 w
X	F Wedge Assemblies 20% Complete	1/24/00	1/19/00	0.4 w
X	6 Chip Ladder Fabrication 20% Complete	1/31/00	1/3/00	3.9 w
X	H Half-Wedge Fabrication 80% Complete	3/29/00	2/23/00	5 w
X	6 Chip Ladder Fabrication 80% Complete	7/12/00	3/14/00	16.8 w
X	Low Mass Cables Available For Silicon South	7/17/00	NA	0 w
X	9 Chip Ladder Fabrication 80% Complete	7/31/00	3/27/00	17.4 w
X	F Wedge Assemblies 80% Complete	7/31/00	4/26/00	13.2 w
X	Low Mass Cables Available for Silicon North	9/4/00	NA	0 w
X	M2-First Silicon Tracker Barrel/Disk Module Complete	9/14/00	1/24/00	33 w
X	South H-Disks Ready to Move to DAB	10/13/00	7/3/00	14.4 w
X	South Half-Cylinder Complete and Ready to Move to DAB	10/25/00	8/1/00	12.2 w
X	M3-All Silicon Tracker Barrels/Disks Complete	11/22/00	8/25/00	12.6 w
X	North Half-Cylinder Complete and Ready to Move to DAB	12/12/00	9/18/00	12 w
X	M1-Central Silicon Complete	12/12/00	9/18/00	12 w
X	M2-Silicon Tracker Installed in Solenoid/Fiber Tracker	2/12/01	9/25/00	19 w

Areas of Concern

Technical
None

Schedule
None

Resources
None

Cost
None

Change Requests

None

Progress Summary

The final components (H-disks) of the detector were installed in DØ this month. Work has continued on the associated infrastructure including cooling, cabling, interlocks, and power supplies in preparation for the March 1 start date. Cabling is a major task given the limited space available and the volume of cables needed to read out the system and is likely to continue during the April shutdown.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Fiber Tracker and VLPCs
WBS: 1.1.2
Date Submitted: 3/26/01
Submitted By: Alan D. Bross

Done	Reportable Milestone	Date	Baseline	Variance
	Detector			
X	M2 - Assembly Design Complete	3/5/99	3/5/99	0 w
X	M2-First Cylinder Complete	9/2/99	9/2/99	0 w
X	M3-Fiber Tracker Ribbon Fabrication 50% Complete	11/5/99	11/12/99	-0.9 w
X	M2-Fiber Tracker Assembly Begun	2/1/00	12/6/99	6.2 w
X	M3-Fiber Tracker Cylinders 8, 7, 6, and 5 Complete	3/2/00	1/28/00	5 w
X	M3-Fiber Tracker Ribbon Fabrication Complete	5/10/00	3/6/00	9.5 w
X	M3-Fiber Tracker Ribbon Mounting Complete	5/13/00	4/20/00	3.3 w
X	M2-Fiber Tracker Assembly Complete	5/26/00	5/4/00	3.3 w
X	Waveguide Production 50% Complete	7/24/00	1/29/00	24.6 w
X	M3-Waveguide Production Complete	11/7/00	6/5/00	22 w
	VLPCs			
X	M2-VLPC Production 50% Complete	8/31/97	8/31/97	0 w
X	M3-VLPC Cryo System Operational	8/18/00	6/12/00	9.6 w
X	M3-VLPC Cassette Assembly 50% Complete	9/13/00	4/12/00	21.5 w
	M3-VLPC Cassette Assembly Complete	3/12/01	8/22/00	27.4 w

Areas of Concern

Technical
None

Schedule
None

Resources
None

Cost
None

Change Requests

None

Progress Summary

84 VLPC cassettes fabricated.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Forward Preshower
WBS: 1.1.4
Date Submitted: 3/20/01
Submitted By: Abid Patwa

Done	Reportable Milestone	Date	Baseline	Variance
X	M2-Forward Preshower Module Fabrication Begun	11/4/98	11/4/98	0 w
X	M3-1st Forward Preshower Detector Complete	2/24/00	1/12/00	6.2 w
X	Module Fabrication and Testing Complete	4/1/00	12/10/99	14 w
X	M3-2nd Forward Preshower Detector Complete	4/3/00	3/8/00	3.6 w

Areas of Concern

Technical

None

Schedule

Completion of all required waveguides for the FPS is still a concern, as it awaits an additional supply of clear fiber, expected in early May 2001. In order to mitigate this late delivery, available fiber from the CFT batch is being used to complete waveguide production. This is expected to complete more than 90% of the waveguides required for the FPS.

Resources

None

Cost

None

Change Requests

None

Progress Summary

- Waveguide production continued at Notre Dame and Indiana University, with VLPC warm-end connector assemblies being mounted and polished on the completed cables occupying the FPS shower layers (1 and 2). Fiber pulling for the forward MIP-detecting layers (3 and 4) continued with 20% complete.
- Installation started within the end calorimeter cable winders for the twisted-pair ribbon cables controlling the LED monitoring system located within the FPS. The process closely follows and is being integrated with both the ICD and Luminosity Counter cables.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Tracking Electronics
WBS: 1.1.5
Date Submitted: 3/28/01
Submitted By: Marvin Johnson, Fred Borcherding

Done	Reportable Milestone	Date	Baseline	Variance
X	First Readout Crate Installed & Working	11/16/99	12/2/99	-2 w
X	10 Digital Boards Available	7/28/00	3/22/00	18 w
X	Ten 8-chip Analog Boards Available	8/8/00	4/19/00	15.4 w
X	Multichip Modules Received	1/27/01	2/23/00	46.6 w
	Mixer Boards Ready	1/31/01	6/22/00	30.2 w

Areas of Concern

Technical

None

Schedule

- Mixer board continues to slip due to difficulties in finalizing the design.
- Delays in AFE boards continue.

Resources

None

Cost

None

Change Requests

None

Progress Summary

Silicon Electronics

The last of the silicon electronics was delivered and tested. Installation is proceeding well. There is still a lot of work to do to install al the cables, fuse panels etc. We anticipate that the south half will be complete by the end of March.

Fiber Electronics

Progress on the fiber electronics is good. All of the multichip modules have been delivered. Most of the digital electronics has been delivered and is being checked out. However, the mixer board continues to slip because the design is more difficult than originally anticipated. We expect that the first 20% of the detector will not be available until early April. Also the analog readout board design is progressing but at a slow rate. Again, it will probably be well into March before we have a completely working prototype. In the mean time, we are building up nine prototype boards so that we will be able to do system tests at the same time as we are fixing the last of the board problems.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Calorimeter Electronics
WBS: 1.2.1
Date Submitted: 3/30/01
Submitted By: Mike Tuts

Done	Reportable Milestone	Date	Baseline	Variance
X	SCA Testing Complete	11/23/99	12/15/99	-2.8 w
X	Shaper Hybrid 50% Complete	2/22/00	5/9/00	-11.05 w
X	M2-Calorimeter Preamp System Test Complete	7/13/00	3/31/00	14.4 w
X	Daughterboard Vendor Production Complete	12/7/00	6/16/00	24 w
X	M3-Calorimeter CC,ECN Preamp Installation Complete	1/15/01	3/31/00	39.4 w
	BLS Motherboard Assembly Complete	3/23/01	8/7/00	31.4 w
	M2-Calorimeter BLS Assembly Complete	3/30/01	9/26/00	25.4 w
	Timing System Installed	4/2/01	8/18/00	30.8 w

Areas of Concern

Technical

None

Schedule

There are still some delays in the delivery of some final systems from vendors. The last 10-20% of BLS motherboards and daughtercards have been delayed. The milestones are still expected to be met, or met soon after the dates.

Resources

None

Cost

None, unless funds are required to speed up delivery, but we do not anticipate that.

Change Requests

None

Progress Summary

Commissioning of the detector proceeds with the focus on the central calorimeter. All elements are available, and we continue to install electronics as it is received from the vendors.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Intercryostat Detector
WBS: 1.2.2
Date Submitted: 3/28/01
Submitted By: Andy White, Lee Sawyer

Done	Reportable Milestone	Date	Baseline	Variance
X	M3-ICD Tile Modules/Boxes Ready	4/19/00	1/18/00	13.2 w
X	M2-ICD Modules Arrive at Fermilab	4/24/00	1/25/00	12.8 w
X	M3-InterCryostat Detectors Installed	5/5/00	2/1/00	13.6 w
	Drawers Ready	2/16/01	12/14/99	57.8 w

Areas of Concern

Technical
Need routing scheme for fiber cables on ECs

Schedule
None

Resources
Will need technical support to move blocks/backplanes in winders

Cost
None

Change Requests

None

Progress Summary

- Extension of MOU through June 30,2001 was granted.
- Further work setting up/debugging test stand at Fermilab.
- Main effort focused on commissioning test with ICD tile/muon trigger counters in SW winder.
- Signals seen from ICD tile and sent to BLS/ADC. Trigger signal sent to MCH1.
- ICD HV system run under online control for the first time.
- Preparations for initial tile(s) installation and fiber cables.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Muon Central
WBS: 1.3.2
Date Submitted: 3/21/01
Submitted By: Tom Diehl

Done	Reportable Milestone	Date	Baseline	Variance
	CFA Commissioning Complete	2/15/01	7/10/00	30.3 w
	PDT Commissioning Complete	2/20/01	6/9/00	34.8 w

Areas of Concern

Technical

None

Schedule

Commissioning the A-ϕ counter system was on hold until approximately mid-month. At that time ITEP sent a senior graduate student from IHEP to help out.

Resources

During January we had 3.75 FTE physicists commissioning the three systems that make up the central muon detector. This is not nearly enough, but it is a $1/4^{th}$ FTE improvement from December 2000.

Cost

None

Change Requests

None

Progress Summary

- Assembly continued on the PDT gas system. There is some hope that we will be able to flow gas in time for collisions.
- In January, the Fermilab engineer improved his version of the PDT control-card data-formatting software. It's not quite ready and we are holding off control board installation until it is.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Muon Forward Trigger Detectors
WBS: 1.3.3
Date Submitted: 3/20/01
Submitted By: Dmitri Denisov

Done	Reportable Milestone	Date	Baseline	Variance
X	M2-Muon Forward Trigger Counter Assembly 10% Complete	10/12/98	10/12/98	0 w
X	All Pixel Octants Assembled	2/23/00	4/4/00	-5.8 w
X	All Muon Forward Trigger Detector Planes Installed	1/12/01	8/25/00	18.6 w

Areas of Concern

Technical
None

Schedule
None

Resources
None

Cost
None

Change Requests

None

Progress Summary

All trigger detectors have been installed. Connections to high voltage, front-end, and readout electronics are in progress. Preliminary tests of counter responses to the LED calibration system and a Sr90 radioactive source demonstrate good (within 10%) agreement with Lab F commissioning results. On-line and off-line software development continued.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Muon Forward Tracker
WBS: 1.3.4
Date Submitted: 3/20/01
Submitted By: Dmitri Denisov

Done	Reportable Milestone	Date	Baseline	Variance
X	M2-Muon Forward Tracker MDT Assembly 10% Complete	1/29/99	1/29/99	0 w
X	Arrival Of C-Layer MDT Modules At FNAL	11/3/99	10/22/99	1.7 w
X	M2-All Muon Forward Tracker MDT Modules At Fermilab	3/30/00	3/10/00	2.8 w
X	B-Layer Octants Assembled	8/24/00	4/18/00	18 w
X	All MDT Octants Assembled	8/24/00	7/14/00	5.8 w
X	Muon Forward Tracker B-Layer Planes Installed	12/22/00	6/15/00	26.2 w
X	All MDT Planes Installed	12/22/00	8/4/00	19.2 w

Areas of Concern

Technical
None

Schedule
None

Resources
None

Cost
None

Change Requests

None

Progress Summary

Installation of MDT octants has finished. Connection of octants to the gas system and front-end and readout electronics is in progress. Preliminary checks of MDT octant gas leaks demonstrate that leaks are within specifications. Development of on-line and off-line software is in progress.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Muon Electronics
WBS: 1.3.5
Date Submitted: 1/25/01
Submitted By: Bill Freeman

Done	Reportable Milestone	Date	Baseline	Variance
X	MDT ADB Fabrication Complete	12/2/99	12/2/99	0 w
X	MDC Fabrication Complete	1/31/00	12/13/99	5 w
X	M2-Muon Electronics Preproduction Installation Complete	1/31/00	12/13/99	5 w
X	FEB, CB Production Complete	4/10/00	1/3/00	14 w
X	SFE, SRC Fabrication Complete	9/21/00	2/3/00	32.5 w
X	MRC, MFC Production Complete	10/18/00	3/27/00	28.8 w

Areas of Concern

Technical
None

Schedule
None

Resources
None

Cost
None

Change Requests

None

Progress Summary

The muon electronics project is complete.

Subsystem: Trigger
WBS: 1.4.1-1.4.5
Date Submitted: 3/21/01
Submitted By: Gerald C. Blazey

Done	Reportable Milestone	Date	Baseline	Variance
X	SLICs Received	12/10/99	11/10/99	4 w
X	M3-Establish Single Crate Internal Data Movement	2/17/00	1/6/00	6 w
X	Preproduction MTCxx, MTFB, and MTCM Complete	10/19/00	1/24/00	38 w
X	M3-Muon Level 1 Trigger Preproduction Testing Complete	11/8/00	4/18/00	28.6 w
X	MBTs Received	1/31/01	3/16/00	44 w
	Production MTCxx, MTFB, and MTCM Complete	3/2/01	6/27/00	34 w
	M3- Cal Readout Available to L2	3/20/01	2/11/00	55.6 w
	Global Installation Complete	3/23/01	7/12/00	35 w
	L2 Cal Installation Complete	3/23/01	8/21/00	29.4 w
	Alpha Cards Received	3/30/01	5/15/00	44 w
	L2 Muon Installation Complete	4/27/01	7/26/00	38 w
	L2 CTT Installation Complete	4/27/01	8/9/00	36 w
	M3-Trigger Level 2 Commissioned	6/4/01	9/21/00	35 w
	M3-L3 Operational (One Full Chain)	6/6/01	6/1/00	51 w

Areas of Concern

Technical

The AFE8s have not yet met specifications. Discussions are underway regarding the replacement of AFE12 cards with AFE8 cards. This will reduce the functionality of the Level 1 preshower triggers but permit timely completion of the detector.

Schedule

The interim Level 3/DAQ system will not be available until April or May, and the final system until summer or mid-summer. This may delay commissioning of the experiment.

Resources

Repair of the Level 2 Alphas continues to require extensive engineering manpower.

Cost

None

Change Requests

None

Progress Summary:

Luminosity Monitor

Luminosity monitor installation continued, and prototype electronics were received at Brown University.

Trigger Framework

Framework commissioning continued.

Level 1

Modification of the Run I Level 1 calorimeter trigger components began and other components were prototyped. The production phase of Level 1 muon electronics continued. Level 1 muon cable and component installation began at DAB. Noise and performance studies of the AFE8 cards continued. Weekly meetings are now held to evaluate the

progress of board functionality and noise tests. Level 1 tracking digital component production is underway and a full Level 1 FPS trigger chain has been tested successfully.

Level 2
Debugging of Level 2 Alpha cards continued at UIC and FCC, and the number of operational boards has slowly increased. The MBT boards are complete and firmware development continued. Tests of the CIC and SFO's were conducted in the moveable counting house. Modifications of the FIC to improve signal shape were finalized at SACLAY. Level 2 muon firmware and software development continued. Software development of Alpha/MBT communications advanced. Oklahoma University has started working on the Level 2 CTT preprocessor. The Level 2 STT prototype components are in test (Motherboard), fabrication (FRC), and design (STC, FTC).

Level 3
Level 3 filtering activities included online tests and filter updates. Due to difficulty with the layout of the SIB, the main component of the Level 3/DAQ system, an interim 100Hz DAQ system was developed. The interim system is characterized by the SIB1 (which has only those components necessary to interface the DAQ with the front-ends) and extension Ethernet upgrades. Design and layout of the SIB1 was performed.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Subsystem: Online
WBS: 1.5.1
Date Submitted: 3/28/01
Submitted By: Stuart Fuess

Done	Reportable Milestone	Date	Baseline	Variance
X	Steady DAQ Running	3/17/00	3/31/00	-2 w

Areas of Concern

Technical
None

Schedule
None

Resources
None

Cost
None

Change Requests

None

Progress Summary

- Received, installed, and began operating the 3rd and largest Online host UNIX system. This is the primary system that will handle the bulk of the event data processing. The operating system on this new machine is at a major version higher than the existing host nodes, so a process of learning operations in the new environment was undertaken.
- Upgraded I/O modules in new host system; demonstrated that Ethernet rates now meet requirements.
- Installed electronic log and began comment and shakedown process.
- Installed Kerberos on Linux nodes

January '01 Financial Summary

The fourth month of fiscal year 2001 closed with obligations for the DØ Upgrade Project totaling $1,166K on equipment M&S funds. While a month-to-month Project spending plan is not anticipated, in order to meet completion deadlines, the majority of FY01 equipment funds are expected to be obligated in the first half of the fiscal year. As a result of budget transfers, the Project's FY01 M&S budget allocation is now $3,365K.

The M&S Upgrade Project balance is currently $1,019K, excluding contingency. Contributions to the Upgrade currently total $1,435K. As of the end of December, DØ Upgrade Spokespersons have negotiated additional non-DoE contributions of approximately $274K. Because the Project managers routinely reevaluate funding needs, the Estimate-to-Complete (ETC) continues to be synonymous with the Project's M&S balance. The overall cost of the Project has increased. The contingency, which is held by the Directorate, further increases the total Project cost. Additional contingency requests are expected to be presented in early calendar year 2001.

The Project currently has commitments with universities and other institutions in the DØ Collaboration, via active Memoranda of Understanding (MoU), totaling $5,897K. These funds represent an obligation on the part of the DØ Upgrade Project and are regularly costed each month via invoices received from these institutions as work is completed. In addition, several institutions have made significant contributions to the DØ Upgrade. A list of the institutions involved, as well as a more detailed breakdown of the commitments and costs, follows.

DØ Upgrade Monthly Progress Report

for the month of January, 2001

FY01 Financial Report as of 1/31/01

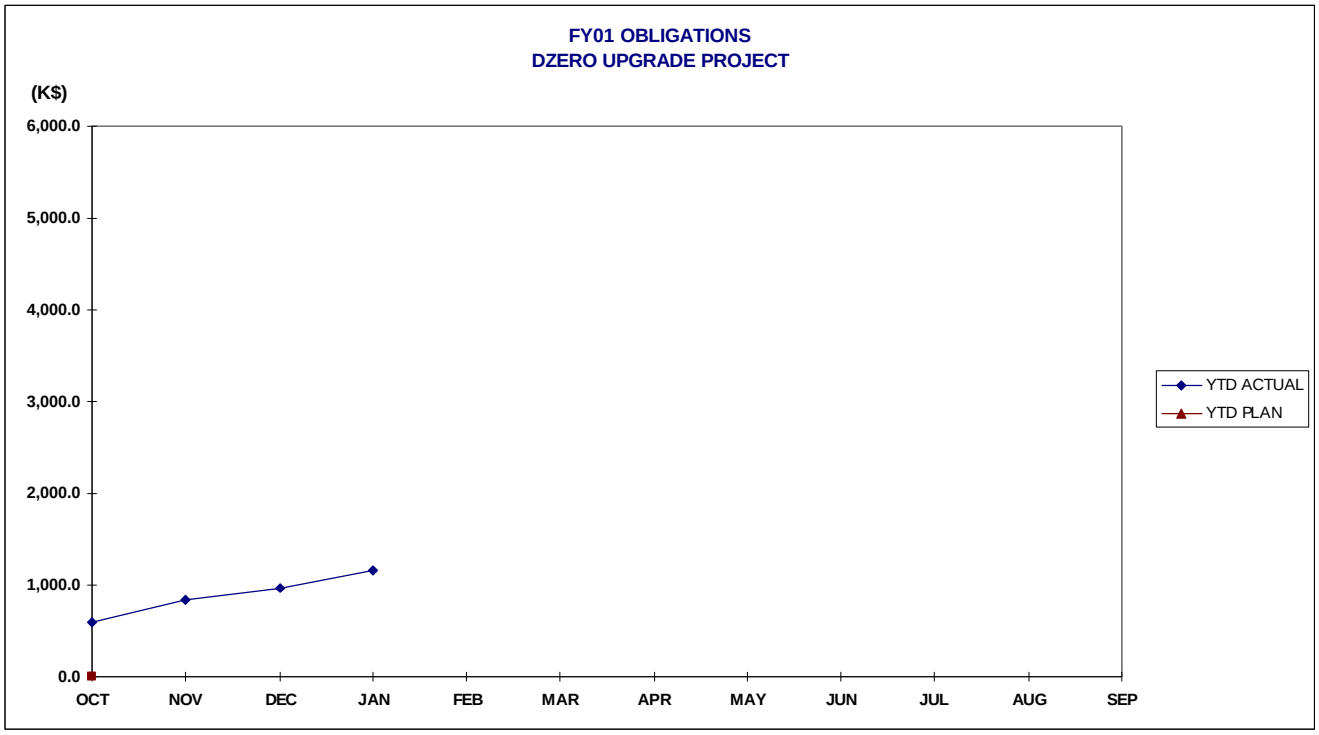
		COST ESTIMATE	PRIOR YR OBLIG	FY01 YTD OBLIG	NON-DOE CONTRIB	PROJECT BALANCE
1	*TOTAL DZERO UPGRADE PROJECT*	42,394.7	38,774.3	1,166.0	1,435.1	1,019.4
1.1	TRACKING DETECTORS	20,682.1	19,795.1	614.4	13.1	259.5
1.1.1	SILICON TRACKER	8,256.2	7,924.0	283.4	13.1	35.7
1.1.2	FIBER TRACKER	7,851.4	7,697.6	106.2	0.0	47.6
1.1.3	CENTRAL PRESHOWER DETECTOR	228.7	228.7	0.5	0.0	-0.5
1.1.4	FORWARD PRESHOWER DETECTOR	514.9	514.9	0.1	0.0	-0.1
1.1.5	TRACKING ELECTRONICS	3,830.8	3,429.8	224.2	0.0	176.8
1.2	CALORIMETER	4,711.6	4,489.2	2.2	210.0	10.2
1.2.1	FRONT-END ELECTRONICS	4,402.6	4,180.2	2.2	210.0	10.2
1.2.2	INTERCRYOSTAT DETECTOR	309.0	309.0	0.0	0.0	0.0
1.3	MUON DETECTORS	9,495.8	8,568.2	204.9	665.3	57.4
1.3.1	COSMIC RAY SCINTILLATOR	1,223.2	963.2	0.0	260.0	0.0
1.3.2	CENTRAL TRIGGER DETECTORS	954.7	793.2	15.7	145.8	-0.1
1.3.3	FORWARD TRIGGER DETECTOR	2,133.3	1,766.8	78.6	259.5	28.4
1.3.4	FORWARD TRACKING DETECTOR	1,410.8	1,297.2	78.8	0.0	34.7
1.3.5	FRONT-END ELECTRONICS	3,773.9	3,747.8	31.8	0.0	-5.7
1.4	TRIGGER	6,677.2	5,276.9	261.3	546.7	592.4
1.4.1	FRAMEWORK	1,859.4	1,859.4	0.0	0.0	0.0
1.4.2	LEVEL 0	136.4	130.6	2.2	0.0	3.5
1.4.3	LEVEL 1	1,588.2	1,356.0	41.6	0.0	190.6
1.4.4	LEVEL 2	2,041.8	1,104.5	217.4	546.7	173.3
1.4.5	LEVEL 3	1,051.5	826.5	0.0	0.0	225.0
1.5	ONLINE EQUIPMENT	828.0	644.9	83.2	0.0	99.9
1.5.1	ON-LINE EQUIPMENT	828.0	644.9	83.2	0.0	99.9

DEFINITION OF TERMS:

Funds:	DØ Upgrade = M&S Equipment Funds; Solenoid = AIP Plant Funds.
Cost Estimate:	Total Project and Sub-Project estimates without contingency.
Prior Year Obligations:	Obligations for fiscal years '92 through '00 as applicable.
FY 01 Year-to-Date Obligations:	Obligations for fiscal year '01.
Project Balance:	Cost Estimate - (Prior Year Obligations + Fiscal 01 YTD Obligations)

DØ Upgrade Monthly Progress Report

for the month of January, 2001



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
YTD ACTUAL	597.4	831.3	971.5	1,166.0								
YTD PLAN												

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Active MOUs as of 1/31/01

INSTITUTION	EQUIPMENT	R&D	TOTAL COSTED
Boston University	298,200	5,200	273,619
Brown University	820,076	131,000	215,083
California State University, Fresno	26,160		21,533
Indiana University	65,000		65,000
Institute for High Energy Physics (IHEP)	270,433		168,313
Kansas State University	208,800	135,808	205,662
Louisiana Tech University	98,856		64,295
Michigan State University	384,238	176,000	174,059
Northern Illinois University	148,000	28,000	166,000
Petersburg Nuclear Physics Institute	4,000		0
SUNY at Stony Brook	1,273,567	20,000	751,763
University of Arizona	826,017	44,600	643,879
University of IL, Chicago	129,103	24,100	93,142
University of Kansas, Center for Research, Inc.	16,000		15,931
University of Maryland	178,900		0
University of Notre Dame	68,000	199,500	195,228
University of Oklahoma	43,000		38,433
University of Texas, Arlington	162,886		139,200
University of Washington	105,584	6,200	82,650
Total Fermilab Funds:	$5,126,820	$770,408	
Total Costed:	2,896,136	417,654	$3,313,790
Total Open Commitments:	$2,230,684	$352,754	273,619

DØ Upgrade Monthly Progress Report

for the month of January, 2001

Reportable Milestones Summary

Done	Reportable Milestones	Project	Date	Baseline	Var.
X	M1-Solenoid Delivered to Fermilab	Solenoid	5/12/97	5/12/97	0 w
X	M2-VLPC Production 50% Complete	VLPCs	8/31/97	8/31/97	0 w
X	M2-Central Preshower Module Fabrication Complete	Central Preshower	12/16/97	12/16/97	0 w
X	M2-Central Preshower Installed on Solenoid	Central Preshower	5/21/98	5/21/98	0 w
X	M1-Solenoid Installed and Tested	Solenoid	9/30/98	9/30/98	0 w
X	M2-Muon Forward Trigger Counter Assembly 10% Complete	Muon Forward Trigger	10/12/98	10/12/98	0 w
X	M2-Forward Preshower Module Fabrication Begun	Forward Preshower	11/4/98	11/4/98	0 w
X	M2-Muon Forward Tracker MDT Assembly 10% Complete	Muon Forward Tracker	1/29/99	1/29/99	0 w
X	M2 - Assembly Design Complete	Fiber Tracker	3/5/99	3/5/99	0 w
X	M2-First Cylinder Complete	Fiber Tracker	9/2/99	9/2/99	0 w
X	H Half-Wedge Fabrication 20% Complete	Silicon Tracker	10/15/99	10/15/99	0 w
X	3 Chip Ladder Fabrication 80% Complete	Silicon Tracker	10/26/99	10/20/99	0.6 w
X	Arrival Of C-Layer MDT Modules At FNAL	Muon Forward Tracker	11/3/99	10/22/99	1.7 w
X	9 Chip Ladder Fabrication 20% Complete	Silicon Tracker	11/4/99	11/3/99	0.2 w
X	M3-Fiber Tracker Ribbon Fabrication 50% Complete	Fiber Tracker	11/5/99	11/12/99	-0.9 w
X	First Readout Crate Installed & Working	Silicon Electronics	11/16/99	12/2/99	-2 w
X	SCA Testing Complete	Calorimeter Electronics	11/23/99	12/15/99	-2.8 w
X	MDT ADB Fabrication Complete	Muon Electronics	12/2/99	12/2/99	0 w
X	SLICs Received	Trigger	12/10/99	11/10/99	4 w
X	F Wedge Assemblies 20% Complete	Silicon Tracker	1/24/00	1/19/00	0.4 w
X	6 Chip Ladder Fabrication 20% Complete	Silicon Tracker	1/31/00	1/3/00	3.9 w
X	MDC Fabrication Complete	Muon Electronics	1/31/00	12/13/99	5 w
X	M2-Muon Electronics Preproduction Installation Complete	Muon Electronics	1/31/00	12/13/99	5 w
X	M2-Fiber Tracker Assembly Begun	Fiber Tracker	2/1/00	12/6/99	6.2 w
X	M3-Establish Single Crate Internal Data Movement	Trigger	2/17/00	1/6/00	6 w
X	Shaper Hybrid 50% Complete	Calorimeter Electronics	2/22/00	5/9/00	-11 w
X	All Pixel Octants Assembled	Muon Forward Trigger	2/23/00	4/4/00	-5.8 w
X	M3-1st Forward Preshower Detector Complete	Forward Preshower	2/24/00	1/12/00	6.2 w
X	M3-Fiber Tracker Cylinders 8, 7, 6, and 5 Complete	Fiber Tracker	3/2/00	1/28/00	5 w
X	Steady DAQ Running	Online	3/17/00	3/31/00	-2 w
X	H Half-Wedge Fabrication 80% Complete	Silicon Tracker	3/29/00	2/23/00	5 w
X	M2-All Muon Forward Tracker MDT Modules At Fermilab	Muon Forward Tracker	3/30/00	3/10/00	2.8 w
X	Module Fabrication and Testing Complete	Forward Preshower	4/1/00	12/10/99	14 w
X	M3-2nd Forward Preshower Detector Complete	Forward Preshower	4/3/00	3/8/00	3.6 w
X	FEB, CB Production Complete	Muon Electronics	4/10/00	1/3/00	14 w
X	M3-ICD Tile Modules/Boxes Ready	Intercryostat Detector	4/19/00	1/18/00	13.2 w
X	M2-ICD Modules Arrive at Fermilab	Intercryostat Detector	4/24/00	1/25/00	12.8 w
X	M3-InterCryostat Detectors Installed	Intercryostat Detector	5/5/00	2/1/00	13.6 w
X	M3-Level Ø-South Installed	Luminosity Monitor	5/8/00	2/9/00	12.6 w
X	M3-Fiber Tracker Ribbon Fabrication Complete	Fiber Tracker	5/10/00	3/6/00	9.5 w
X	M3-Fiber Tracker Ribbon Mounting Complete	Fiber Tracker	5/13/00	4/20/00	3.3 w
X	M2-Fiber Tracker Assembly Complete	Fiber Tracker	5/26/00	5/4/00	3.3 w
X	6 Chip Ladder Fabrication 80% Complete	Silicon Tracker	7/12/00	3/14/00	16.8 w
X	M2-Calorimeter Preamp System Test Complete	Calorimeter Electronics	7/13/00	3/31/00	14.4 w
X	Low Mass Cables Available For Silicon South	Silicon Tracker	7/17/00	NA	0 w
X	Waveguide Production 50% Complete	Fiber Tracker	7/24/00	1/29/00	24.6 w
X	10 Digital Boards Available	Fiber Electronics	7/28/00	3/22/00	18 w
X	9 Chip Ladder Fabrication 80% Complete	Silicon Tracker	7/31/00	3/27/00	17.4 w
X	F Wedge Assemblies 80% Complete	Silicon Tracker	7/31/00	4/26/00	13.2 w
X	M2-Muon End Toroids Installed on Platform	Master	8/4/00	11/15/00	-14.2 w
X	Ten 8-chip Analog Boards Available	Fiber Electronics	8/8/00	4/19/00	15.4 w
X	M3-VLPC Cryo System Operational	VLPCs	8/18/00	6/12/00	9.6 w
X	B-Layer Octants Assembled	Muon Forward Tracker	8/24/00	4/18/00	18 w

X	All MDT Octants Assembled	Muon Forward Tracker	8/24/00	7/14/00	5.8 w
X	Low Mass Cables Available for Silicon North	Silicon Tracker	9/4/00	NA	0 w
X	M3-VLPC Cassette Assembly 50% Complete	VLPCs	9/13/00	4/12/00	21.5 w
X	M2-First Silicon Tracker Barrel/Disk Module Complete	Silicon Tracker	9/14/00	1/24/00	33 w
X	SFE, SRC Fabrication Complete	Muon Electronics	9/21/00	2/3/00	32.5 w
X	South H-Disks Ready to Move to DAB	Silicon Tracker	10/13/00	7/3/00	14.4 w
X	MRC, MFC Production Complete	Muon Electronics	10/18/00	3/27/00	28.8 w
X	Preproduction MTCxx, MTFB, and MTCM Complete	Trigger	10/19/00	1/24/00	38 w
X	South Half-Cylinder Complete and Ready to Move to DAB	Silicon Tracker	10/25/00	8/1/00	12.2 w
X	M1-Begin Shield Wall Removal/Ready to Roll-in	Master	11/7/00	11/22/00	-2.2 w
X	M3-Waveguide Production Complete	Fiber Tracker	11/7/00	6/5/00	22 w
X	M3-Muon Level 1 Trigger Preproduction Testing Complete	Trigger	11/8/00	4/18/00	28.6 w
X	M3-All Silicon Tracker Barrels/Disks Complete	Silicon Tracker	11/22/00	8/25/00	12.6 w
X	Daughterboard Vendor Production Complete	Calorimeter Electronics	12/7/00	6/16/00	24 w
X	North Half-Cylinder Complete and Ready to Move to DAB	Silicon Tracker	12/12/00	9/18/00	12 w
X	M1-Central Silicon Complete	Silicon Tracker	12/12/00	9/18/00	12 w
X	Muon Forward Tracker B-Layer Planes Installed	Muon Forward Tracker	12/22/00	6/15/00	26.2 w
X	All MDT Planes Installed	Muon Forward Tracker	12/22/00	8/4/00	19.2 w
X	All Muon Forward Trigger Detector Planes Installed	Muon Forward Trigger	1/12/01	8/25/00	18.6 w
X	M3-Calorimeter CC, ECN Preamp Installation Complete	Calorimeter Electronics	1/15/01	3/31/00	39.4 w
X	Multichip Modules Received	Fiber Electronics	1/27/01	2/23/00	46.6 w
	Mixer Boards Ready	Fiber Electronics	1/31/01	6/22/00	30.2 w
X	MBTs Received	Trigger	1/31/01	3/16/00	44 w
X	M2-Silicon Tracker Installed in Solenoid/Fiber Tracker	Silicon Tracker	2/12/01	9/25/00	19 w
	CFA Commissioning Complete	Muon Central	2/15/01	7/10/00	30.3 w
	Drawers Ready	Intercryostat Detector	2/16/01	12/14/99	57.8 w
	PDT Commissioning Complete	Muon Central	2/20/01	6/9/00	34.8 w
	M1-Detector Rolled-in and Hooked Up	Master	2/27/01	2/2/01	3.4 w
	Production MTCxx, MTFB, and MTCM Complete	Trigger	3/2/01	6/27/00	34 w
	M3-VLPC Cassette Assembly Complete	VLPCs	3/12/01	8/22/00	27.4 w
	M3- Cal Readout Available to L2	Trigger	3/20/01	2/11/00	55.6 w
	BLS Motherboard Assembly Complete	Calorimeter Electronics	3/23/01	8/7/00	31.4 w
	Global Installation Complete	Trigger	3/23/01	7/12/00	35 w
	L2 Cal Installation Complete	Trigger	3/23/01	8/21/00	29.4 w
	M2-Calorimeter BLS Assembly Complete	Calorimeter Electronics	3/30/01	9/26/00	25.4 w
	Alpha Cards Received	Trigger	3/30/01	5/15/00	44 w
	Timing System Installed	Calorimeter Electronics	4/2/01	8/18/00	30.8 w
	L2 Muon Installation Complete	Trigger	4/27/01	7/26/00	38 w
	L2 CTT Installation Complete	Trigger	4/27/01	8/9/00	36 w
	M3-Trigger Level 2 Commissioned	Trigger	6/4/01	9/21/00	35 w
	M3-L3 Operational (One Full Chain)	Trigger	6/6/01	6/1/00	51 w